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(54) OPTICAL FIBER PROBE CONNECTOR FOR PHYSIOLOGICAL MEASURING INSTRUMENT

(57) Abstract:

PURPOSE: To obtain an optical fiber probe connector of a physiological measuring instrument by providing this connector with a sealed annular passage in the longitudinal direction which is packed with an optically active chemical indicator pressed to its closed end and in which the balance is a socket cavity opened for the purpose of an optical fiber core.

CONSTITUTION: The connector 10 is a cylindrical member consisting of a sheath 11 which forms the cavity packed with the optically active chemical indicator material 13 and an end cap 12. The connector has an internal passage cavity 14 which is an annular groove acting as a female socket for the terminal strand of the optical fiber. The diameter of the cavity 14 snugly houses the optical fiber and embodies the contact and optical coupling with the optically active material 13 encapsulated at a boundary joint part 15. The sleeve connector 10 is a gaseous oxygen sensor and the indicator material consists of oxygen extinction flu-

orescent dyes 16 dispersed into a polymer matrix 17. The sheath 11 consists of a gas permeable material, such as hydrophobic expanded polypropylene and silicone polymer, as the armor of the oxygen sensitive fluorescent dye material 13.

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